Chapter five

# Defensive Driving

Most accidents are caused by driver error.

Reduce the likelihood of an accident by knowing and using the standard accident-prevention formula:

## Be Alert.

Never think the other driver will not make a driving mistake.

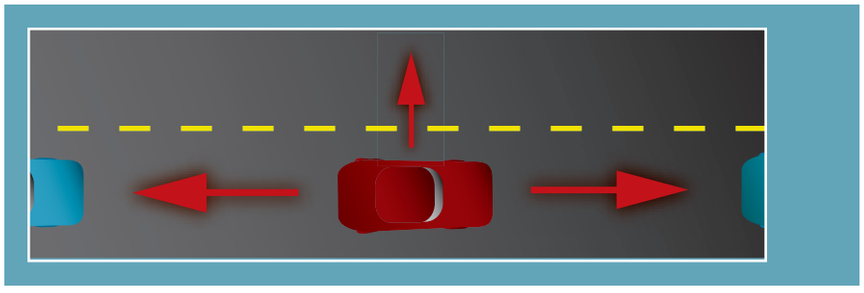
## Be Prepared.

Learn what to do in any case that requires a quick driving decision.

## Act in Time.

Try not to panic. Know what to do if something happens quickly.

## Keep a Space Cushion, Do Not Tailgate



Tailgating is following too closely behind the vehicle directly in front.

Reaction time is very important when trying to avoid a collision. Keep sufficient space between all cars on every side. Stay in the middle of the lane. Make sure there is enough room ahead to stop or pass safely. This space provides motorists with time to react in case of an emergency or sudden shift in traffic flow.

## Construction Zones

Drivers will encounter construction on roadways. Work and construction zones are identified by advance warning signs or flashing lights on a vehicle or sign up to one-half mile before the work or construction zone. Construction workers holding flags may control traffic flow. Motorists may encounter a detour onto another roadway to bypass the zone where work is being done. If traffic is permitted through or adjacent to the work zone, temporary traffic control devices will be present.

## Changing Lanes and Passing

Using the proper lane is an important part of defensive driving. Do not straddle a lane. Be alert to traffic. When changing lanes, use the rearview mirror. **Always signal lane changes.**

**Keep the points listed below in mind when passing or changing lanes:**

- only pass or change lanes if necessary
- only pass if it can be completed without speeding
- keep a safe following distance, do not tailgate
- check traffic ahead and behind
- only pass when road signs and pavement markings permit
- signal every lane change
- tap horn, if necessary, to signal the driver ahead, except in business or residential zones
- return to the right lane only when ahead of the vehicle being passed, usually when the passed vehicle can be viewed in the rearview mirror.
- cancel the turn signal



## Being Passed

When an approaching motorist passes, be careful. Stay in the proper lane. Consider slowing down to make the pass easier. Return to normal speed after the approaching motorist has passed.

## Following Distance

### One Car-Length Method

There is no perfect rule for determining following distance. One good rule is to keep one car length behind another vehicle (about 20 feet) for each ten miles per hour of speed. During bad weather or at higher speeds, increase following distance.

**Minimum Safe Following Distances (in car lengths)**

| Road Condition | 20 mph | 30 mph | 40 mph | 50 mph |
|---|---|---|---|---|
| Ideal | 2 | 3 | 4 | 5 |
| Wet Pavement | 4 | 6 | 8 | 10 |
| Gravel | 4 | 6 | 8 | 10 |
| Packed Snow | 6 | 9 | 12 | - |
| Ice | 12 | 18 | - | - |

### Two-Second Rule

Another rule for determining safe following distance is the two-second rule.

To use the two-second rule as a way to gauge safe following distance, choose a fixed object, such as a sign or a tree, ahead of the car directly ahead. Make sure locating the object does not cause any distraction. At least two seconds should elapse between the two cars passing the sign or tree.

This rule takes into account the traveling speeds of two cars. Try it while driving. It can help develop good judgment for proper following distances. During bad weather, the two-second rule should be increased to four or more seconds.

## Road Conditions

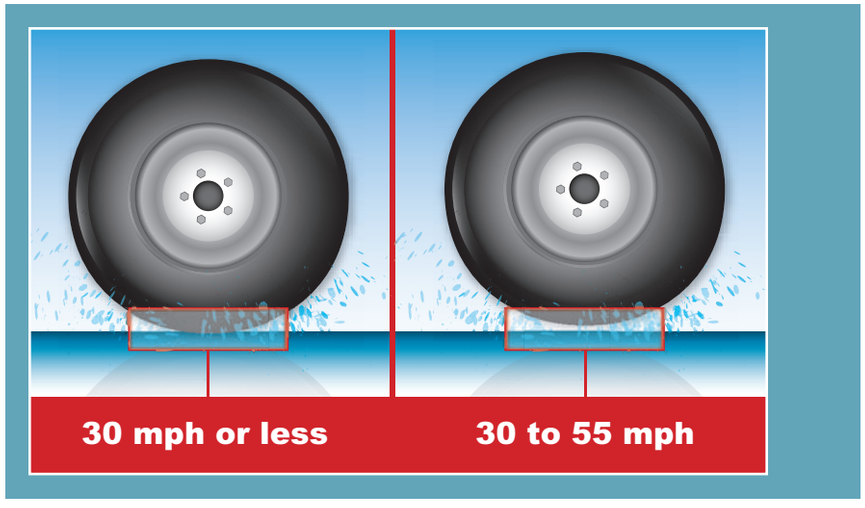
### Wet Roads

Drive more slowly on wet roads. Stopping and turning should be completed with care. Increase the two-second rule to four or more seconds. Quick turns or changes in speed may cause skidding.

Road surfaces are most slippery during the first few minutes of a rainfall. When driving through a water puddle, test the brakes by pumping them. This will also help dry the brakes. Decrease speed when driving through water puddles, especially those deeper than the tread of a tire.

## Hydroplaning

Wet road surfaces can cause tires to hydroplane, or ride up on a film of water starting at about 35 mph, which could cause a driver to lose control. Chances of hydroplaning increase as speeds increase. After 55 mph, tires may totally leave the road surface.




If tires totally leave the road surface, braking is virtually impossible, and turning is not possible. A gust of wind, a change of road level, or a slight turn can create a skid if a vehicle is hydroplaning.

To avoid hydroplaning, do not drive on bald or badly worn tires and slow down when heavy rain, standing water or slush is present.

## Snow and Ice

Winter driving presents specific hazards. These include longer hours of darkness and heavy fog, rain, snow, sleet or ice. Each of these increases the potential for an accident for drivers. A safe driver will prepare for these hazards.

Before driving in cold weather, let the vehicle warm up. Remove all snow and ice from the car, including from on the roof. In New Jersey, motorists are liable if ice flies from a vehicle and causes death, injury or property damage. Always make sure the vehicle has windshield wiper fluid.

Special precautions should be taken when driving in snow and ice. To use anti-lock brakes (ABS) safely, do not pump the brake pedal, but keep consistent pressure on the pedal. For conventional and drum brakes, apply firm, steady pressure. Do not pump the brake too hard, which may cause the wheels to momentarily lock.

If the brakes do lock, release the brake pedal, and then pump the pedal again. Repeat this process putting less and less pressure on the brakes until the vehicle is under control.

Snow tires can help driving in snow by providing better traction for more controlled starting, stopping and steering. Snow tires do not provide better traction on ice. Tire chains provide the best traction on ice and in hard, packed snow or deep snow. In New Jersey, drivers may use studded snow tires between November 15 and April 1.

To start on snow and ice, keep the engine speed low. If wheels spin, use a low gear or shift to second gear. Rock the car back and forth slowly by moving between a forward gear and reverse to escape from being stuck in snow.

## Reduced Visibility

Poor roadway or weather conditions require drivers to increase following distance because rough, wet or snow-covered roads may require more response time. A good rule on snow-covered roads is a six-second following distance.

Scrape and wipe all frost or ice from every window. Turn on the defroster. If the defroster does not work while driving in freezing rain or snow, stop the car. Close the windows and let the heater warm up the windows.

Slow down while driving in fog, whether it is day or night. Keep headlights on low beam. Use fog lights if they are available. Use pavement markings and other vehicles' lights as guides.

Sun glare can cause reduced visibility. Adjust sun visors for increased visibility, hold the steering wheel firmly and slow down. Watch for lane markings.

For all cases of reduced visibility, if necessary, stop alongside the road or in the shoulder, but always out of the way of traffic.

## Night Driving

Nearly 90 percent of driving decisions are based on what a driver sees while driving. At night, vision is reduced. To remain safe while driving at night, keep a safe speed and drive within the range of the headlights. This range will be about 500 feet on high beam and 350 feet on low beam. Always be able to stop within those distances.

**Always consider the following factors when driving at night:**

- speed
- reaction distance (distance traveled before hitting brakes)
- braking distance (distance needed to completely stop vehicle)

| Driving and Stopping at Night (in feet) | | | |
|---|---|---|---|
| mph | Reaction Distance | Braking Distance | Stopping Distance |
| 20 | 44 | 25 | 69 |
| 30 | 66 | 57 | 123 |
| 40 | 88 | 101 | 189 |
| 50 | 110 | 158 | 268 |
| 60 | 132 | 227 | 359 |
| 70 | 154 | 310 | 464 |

• Based on the average driver using low beams, with a reaction time of 1.5 seconds. A vehicle travels 88 feet per second at 60 mph. Deceleration is 17.02 feet per second.

**Consider these other rules for safe night driving:**

• Drive with headlights on at dusk, night, dawn, during dark days and whenever weather conditions reduce visibility to less than 500 feet

• Drive more slowly than during daylight

• Watch for road signs, slow moving or unlit vehicles, bicycles, pedestrians and animals

## Study Questions

1. The survival rate for a motorist or passenger wearing a safety belt and shoulder strap is how much greater during an accident?
2. Where are rearview mirrors' blind spots?
3. When should the horn be used?
4. How far from a turn should the signal be used?
5. What is the speed limit in a business district in New Jersey?
6. What is a good rule for adjusting speed in traffic?

Questions continued on next page.



7. When are right turns on red allowed?
8. What is the rule for following distances on dry roads?
9. How close to a stop sign can a motorist park?
10. Define hydroplaning.
11. When should headlights be dimmed?
12. Define uncontrolled intersection.
13. Define acceleration lane.

**ANSWERS**

1. Three to four times better than when not wearing either one.
2. On the left and right sides and behind rear window posts.
3. When passing or to get the attention of other drivers and road users.
4. At least 100 feet.
5. 25 mph
6. Try to adjust to the flow of traffic
7. After a full stop when there is not a No Turn On Red sign and after yielding to traffic and pedestrians proceeding through a green light.
8. Keep at least one car length back for each 10 mph of speed.
9. 50 feet.
10. Losing the tire grip on wet roads and riding on a film of water.
11. In city driving and when following or meeting another vehicle within 500 feet.
12. One where there are no traffic signs or signals.
13. An extra lane provided at the entrance to an expressway.

• These study questions, or question similar to these study questions, may or may not be on the actual MVC knowledge test.